FIG. 1

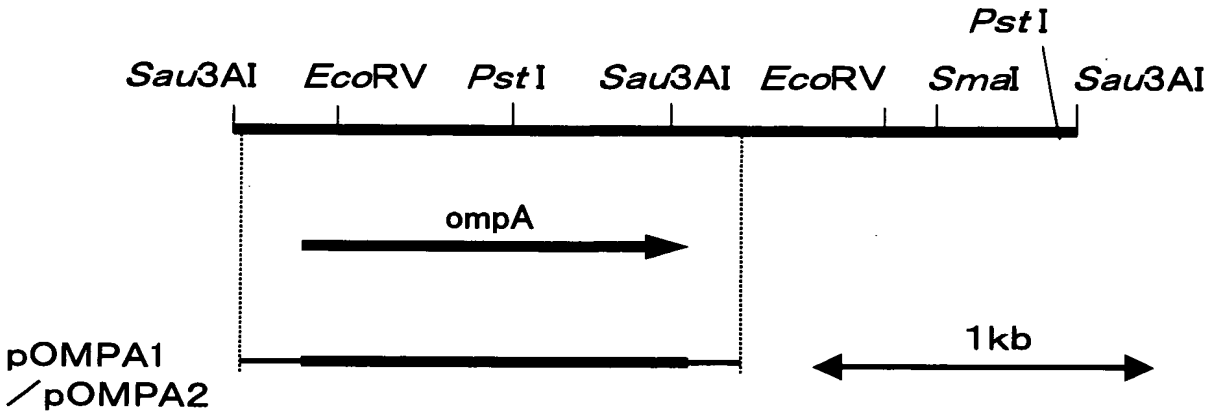

PstI
Sau3AI
EcoRV
PstI
Sau3AI
EcoRV
SmaI
Sau3AI
ompA
1kb
pOMPA1
/pOMPA2

FIG. 2

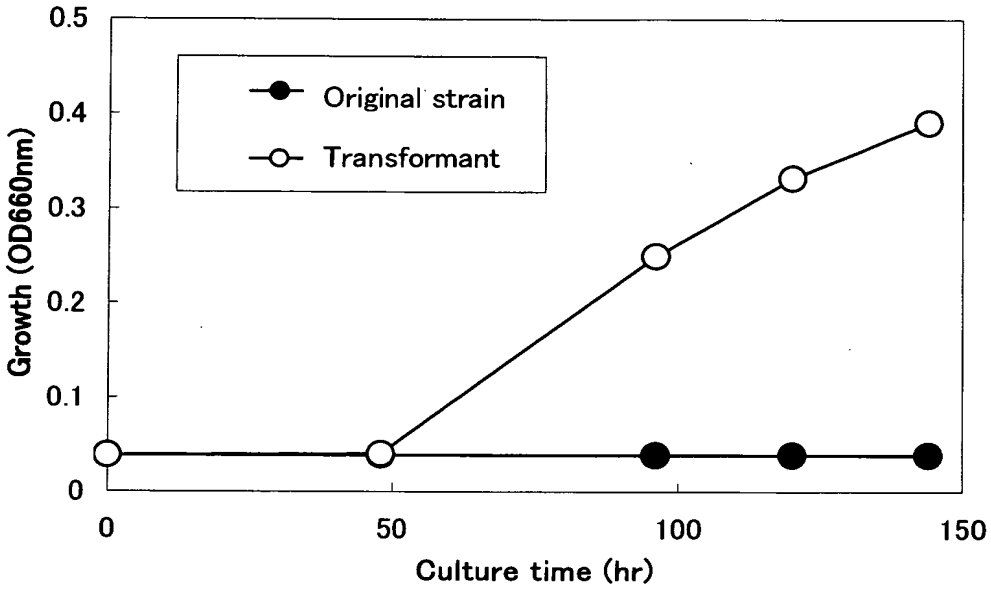
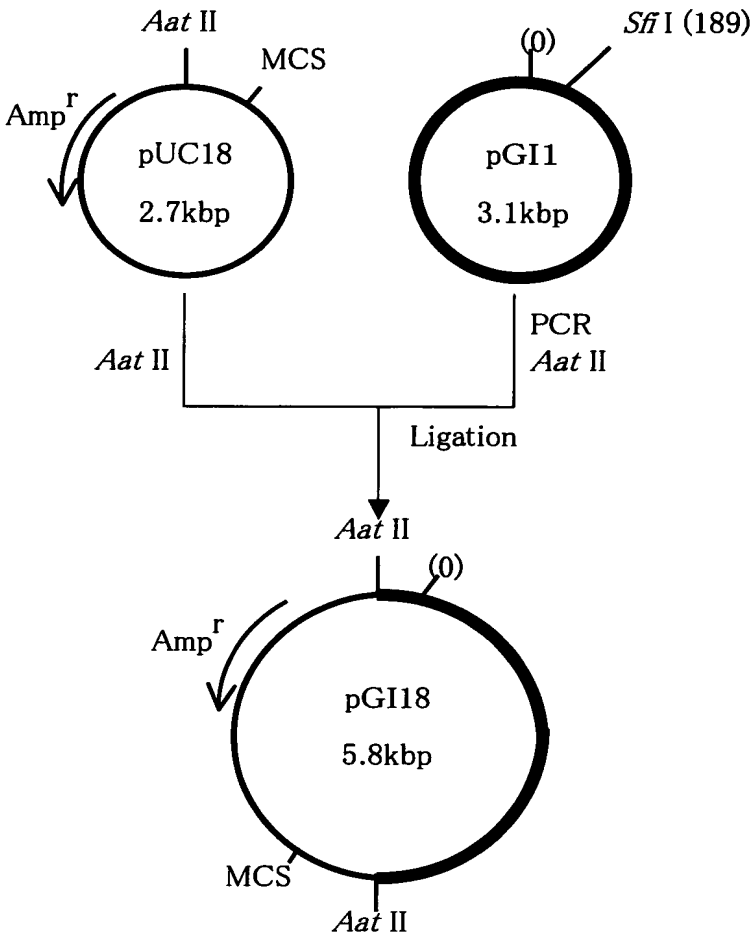

0.5
0.4
0.3
0.2
0.1
0
Growth (OD660nm)
Original strain
Transformant
0
50
100
150
Culture time (hr)

FIG.3

```
MetArgLeuArgMetValLeuLeuAlaThr AlaLeuGlyAlaAlaProPheAlaThrAla   20
MetAlaThrThrIleThrGlyProTyrVal AspIleGlyGlyGlyTyrAspLeuThrGln   40
ThrGlnHisAlaHisGlyPheAspLysAsn GlnTyrGluAsnAsnAlaAsnThrAlaGly   60
TyrLeuAspAlaThrAspAsnAlaArgLeu LeuLysGluAlaHisSerArgGluArgMet   80
GluHisGlyAspGlyTrpThrGlyPheAla ThrPheGlyTrpGlyPheGlyAsnGlyLeu  100
ArgAlaGluIleGluGlyAspTyrAsnTrp SerAlaLeuThrGlyTyrAsnSerValSer  120
GlySerAlaTyrGlyAsnAsnHisGlnSer GlyLysSerSerGlySerAspArgSerTyr  140
GlyGlyPheValAsnValLeuTyrAspIle AspLeuLysArgLeuPheAsnIleAspVal  160
ProValThrProPheValGlyValGlyAla GlyTyrLeuTrpGlnAsnValAspAlaSer  180
ThrSerValThrArgTyrLeuAsnValArg GlnAsnGlyThrAsnGlySerPheAlaTyr  200
GlnGlyMetValGlyAlaAlaTyrAspIle ProGlyValProGlyLeuGlnMetThrThr  220
GluTyrArgMetIleGlyGlnValGluSer PheAlaMetGlyAsnIleSerGlnThrGly  240
GlyGlyAspArgThrLeuSerTyrAspHis ArgPheAsnHisGlnPheIleValGlyVal  260
ArgTyrAlaPheAsnHisAlaProProPro ProProProAlaProAlaValAlaProPro  280
AlaProSerAlaAlaArgThrTyrLeuVal PhePheAspTrpAspGlyAlaValLeuThr  300
AspArgAlaArgGlyIleValAlaGluAla AlaGlnAlaSerThrHisValGlnThrThr  320
ArgIleGluValAsnGlyTyrThrAspAsn ThrSerAlaHisProGlyProArgGlyGlu  340
LysTyrAsnLeuGlyLeuSerMetArgArg AlaAspSerValLysAlaGluLeuIleArg  360
AspGlyValProAlaGlyGlyIleAspIle HisTrpTyrGlyGluAlaHisProLeuVal  380
ValThrGlnProAspThrArgGluProGln AsnArgArgValGluIleIleLeuHis     399
```

FIG.4


Aat II
MCS
Amp r
pUC18
2.7kbp
(0)
Sfi I (189)
pGI1
3.1kbp
Aat II
PCR
Aat II
Ligation
Aat II
(0)
Amp r
pGI18
5.8kbp
MCS
Aat II